Milan Army Ammunition Plant NPL

Size: 22,436 acres
Mission: Load, assemble, pack, ship, and demilitarize explosive ordnance
HRS Score: 58.15; placed on NPL in July 1987
IAG Status: IAG signed in 1989
Contaminants: Munitions-related wastes and heavy metals
Media Affected: Groundwater and soil
Funding to Date: $81.4 million
Estimated Cost to Completion (Completion Year): $239.8 million (FY2034)
Final Remedy in Place or Response Complete Date for All Sites: FY2007

Milan, Tennessee

Restoration Background

Preliminary Assessment and Site Inspection activities conducted at Milan Army Ammunition Plant in FY87 identified 25 sites requiring further investigation. The installation divided the sites into five operable units (OUs): three OUs associated with the O-Line Ponds Area, one OU for the northern area, and one OU for the southern area. Installation soil and groundwater are contaminated with lead, other heavy metals, and explosive compounds. Contamination exists throughout the loading, assembling, and packing lines and at the open burn and open detonation area.

A Remedial Investigation and Feasibility Study (RI/FS) began in FY88. EPA and state regulatory agencies approved the RI report in FY92. The report recommended no further action at three sites, Remedial Design and Remedial Action for the O-line ponds and associated groundwater, and collection of additional RI data for the remaining sites.

In FY91, the City of Milan discovered explosive-compound contamination in its municipal water supply wells. In FY93, representatives of the Army, the City of Milan, EPA, and the State of Tennessee completed a contingency plan to protect the municipal water supply. The Army provided $9 million to the City of Milan for development of new municipal water sources. In FY95, the Army and regulators signed a Record of Decision (ROD), and construction continued on the new municipal water system. To help prevent further off-site migration of contaminated groundwater, the installation constructed and began operating a granular activated carbon and ultraviolet oxidation system. The installation also capped the abandoned O-line ponds and removed contaminated drinking water wells.

The commander formed a Restoration Advisory Board (RAB) in FY94. An innovative technology demonstration began in FY95 to analyze the effectiveness of phytoremediation for the treatment of explosives-contaminated groundwater. The demonstration was later expanded and extended.

In FY96, the installation completed the design of a carbon treatment system for groundwater at the Northern Boundary Site (OU3). In addition, the installation initiated innovative bioremediation efforts that use open-windrow composting of explosives-contaminated soil in the Northern Industrial Area. The installation also initiated fieldwork for an RI to address on-post soil source areas and off-post groundwater contamination.

In FY97, the installation started construction of a groundwater treatment plant for the Northern Boundary Site (OU3). The installation also completed the OU2 capping project and began the presumptive carbon treatment remedy. Project managers met every 2 months to discuss issues that could slow cleanup or add cost. The installation provided tours of the phytoremediation demonstration project to the public and RAB. The State of Tennessee worked closely with the installation to make the groundwater treatment plants operational.

FY98 Restoration Progress

The installation began constructing the bioremediation and composting facility and continued construction of the OU3 Northern Boundary groundwater treatment plant. An industrial landfill was completed, which will become the disposal location for treated soil after composting. The Army constructed additional monitoring wells to help complete the installation groundwater study. Funding delays delayed completion of the ROD for the OU4 Western Boundary Area and the RI for OU5.

The Army completed the study for the phytoremediation demonstration project, which is under evaluation for full-scale application at Milan and other installations.

The City of Milan completed a new drinking water system with associated treatment plant. This new system provides potable water to city residents affected by explosives contamination in the groundwater. The OU1 groundwater treatment plant continued to operate successfully throughout FY98. Construction of a third extraction well was completed; this well allowed greater capture area of the explosives-contaminated plume. The Army, EPA, and the state signed a final ROD for three sites, recommending no further action.

The installation has continued to solicit new members for the RAB. RAB members received a briefing on the Technical Assistance for Public Participation Program.

Plan of Action

- Complete OU3 groundwater treatment plant and soil composting facilities in FY99
- Complete ROD for OU4 Western Boundary Area, Region 1 in FY99
- Complete FS and issue draft ROD for OU5, Southern Study Area in FY99
- Complete RI/FS for installation groundwater study in FY99
- Complete FS and Proposed Plan for OU3/4 Nonindustrial Area Soil in FY99
- Complete construction of the bioremediation and composting facility and begin operational testing in FY99

FY99 Funding by Phase and Relative Risk